

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of the claims in the application:

Listing of Claims:

Claims 1 – 17 (previously cancelled)

Claim 18: (previously presented): An isolated linear peptide obtained from an antibiotic peptide or an analog thereof, wherein said isolated peptide is devoid of a disulphide bond and wherein said isolated peptide has the sequence: Arg-Arg-Leu-Ser-Tyr-Ser-Arg-Arg-Arg-Phe (SEQ ID NO: 23).

Claim 19: (previously presented): The isolated linear peptide of claim 18, wherein the antibiotic peptide is a β -stranded antibiotic peptide.

Claim 20: (previously presented): A method for vectoring an active substance using a linear peptide obtained from a β -stranded antibiotic peptide or an analog thereof, wherein said active substance is selected from the group consisting of peptides, polypeptides, antibodies, nucleic acids, oligonucleotides and chemical molecules for the treatment or prevention of human or animal pathologies, and said linear peptide or analog thereof is devoid of disulphide bonds, said disulphide bonds being removed, replaced by another amino acid or wherein one or more cysteines in said peptide or analog thereof is blocked at the SH group level, said method comprising the steps of:

- (a) coupling said active substance to said linear peptide; and
- (b) conveying said active substances coupled with said linear peptide to a target for vectoring, said target being selected from the group consisting of a particular cell compartment, a particular cell type or a particular organ.

Claim 21: (currently amended): The method according to claim 20, wherein said linear peptide is selected from the group consisting of:

Baa Xaa Xaa Baa Xaa Xaa Xaa Baa Baa Baa Xaa Xaa Xaa Xaa Xaa Baa
(I) (SEQ ID NO: 11); and

Baa Baa Xaa Xaa Xaa Baa Xaa Xaa Baa Xaa Xaa Xaa Xaa Baa Baa Xaa Baa
(II) (SEQ ID NO: 12),

Wherein Baa independently represents an amino acid residue having a base group as its side chain, and wherein Xaa independently represents an aliphatic or aromatic amino acid residue.

Claim 22: (previously presented): The method according to claim 20, wherein said linear peptide has one of the following formulas:

Baa Xaa Xaa Baa Xaa Xaa Xaa Baa Baa Baa Xaa Xaa Xaa Xaa Xaa Baa
(I)(SEQ ID NO: 11)

Baa Baa Xaa Xaa Xaa Baa Xaa Xaa Baa Xaa Xaa Xaa Baa Baa Xaa Baa
(II)(SEQ ID NO: 12)

wherein:

the Baa groups are selected from the group consisting of arginine, lysine, diaminooacetic acid, diaminobutyric acid, diaminopropionic acid, ornithine, and

the Xaa groups are selected from the group consisting of glycine, alanine, valine, norleucine, isoleucine, leucine, cysteine, cysteine^{Acm}, penicillamine, methionine, serine, threonine, asparagine, glutamine, phenylalanine, histidine, tryptophan, tyrosine, proline, Amino butyric acid, carboxylic amino-1-cyclohexane acid, Amino isobutyric acid, carboxylic 2-aminotetraline, 4-bromophenylalanine, tert-Leucine, 4-chlorophenylalanine, β-cyclohexylalanine, 3,4-dichlorophenylalanine, 4-fluorophenylalanine, homoleucine, β-homoleucine, homophenylalanine, 4-methylphenylalanine, 1-naphtylalanine, 2-naphtylalanine, 4-nitrophenylalanine, 3-nitrotyrosine, norvaline, phenylglycine, 3-pyridylalanine, and β-(2-Thienyl)-alanine.

Claim 23: (previously presented): The method according to claim 20, wherein said linear peptide has one of the following formulas:

Arg Xaa Xaa Arg Xaa Uaa Xaa Uaa Arg Arg Arg Xaa Uaa Xaa Uaa Xaa Xaa Arg - NH₂ (V)(SEQ ID NO : 13)

Arg Arg Xaa Uaa Xaa Arg Xaa Uaa Xaa Arg Xaa Xaa Uaa Xaa Arg Arg Uaa Arg - NH₂ (VI)(SEQ ID NO : 14)

wherein:

Uaa represents serine or threonine, and
the Xaa groups, independently, represent an amino acid including D-amino acids, either aliphatic or aromatic, selected from the group consisting of glycine, alanine, valine, norleucine, isoleucine, leucine, cysteine, cysteine^{Acm}, penicillamine, methionine, serine, threonine, asparagine, glutamine, phenylalanine, histidine, tryptophan, tyrosine, proline, Amino butyric acid, carboxylic amino-1-cyclohexane acid, Amino isobutyric acid, carboxylic 2-aminotetraline, 4-bromophenylalanine, tert-Leucine, 4-chlorophenylalanine, β-cyclohexylalanine, 3,4-dichlorophenylalanine, 4-fluorophenylalanine, homoleucine, β-homoleucine, homophenylalanine, 4-methylphenylalanine, 1-naphthylalanine, 2-naphthylalanine, 4-nitrophenylalanine, 3-nitrotyrosine, norvaline, phenylglycine, 3-pyridylalanine, and β-(2-Thienyl)-alanine.

Claim 24: (previously presented): A method of vectoring an active substance selected from the group consisting of peptides, polypeptides, antibodies, nucleic acids, oligonucleotides and chemical molecules for the treatment or prevention of human or animal pathologies using a linear peptide according to claim 18, the method comprising the steps of:

- (a) coupling said active substance to said linear peptide; and
- (b) conveying said active substance coupled with said linear peptide to a target for vectoring, said target being selected from the group consisting of a particular cell compartment, a particular cell type or a particular organ.

Claim 25: (previously presented): A compound of the formula (IV):

(YAZ)_m IV

wherein:

A represents a linear peptide obtained from a β -stranded antibiotic peptide or an analog thereof having one of the following formulas:

Baa Xaa Xaa Baa Xaa Xaa Xaa Xaa Baa Baa Baa Xaa Xaa Xaa Xaa Xaa Xaa Baa
(I)(SEQ ID NO : 11)

Baa Baa Xaa Xaa Xaa Baa Xaa Xaa Baa Xaa Xaa Xaa Xaa Baa Baa Xaa Baa
(II)(SEQ ID NO : 12),

Arg Xaa Xaa Arg Xaa Uaa Xaa Uaa Arg Arg Arg Xaa Uaa Xaa Uaa Xaa Xaa Arg
-NH₂ (V)(SEQ ID NO : 13), or

Arg Arg Xaa Uaa Xaa Arg Xaa Uaa Xaa Arg Xaa Xaa Uaa Xaa Arg Arg Uaa Arg
-NH₂ (VI)(SEQ ID NO : 14),

wherein:

the Baa groups independently, represent an amino acid residue whose side chain carries a base group and is selected from the group consisting of arginine, lysine, diaminocetic acid, diaminobutyric acid, diaminopropionic acid, ornithine;

the Xaa groups independently, represent an aliphatic or aromatic amino acid residue group, the amino acid selected from the group consisting of glycine, alanine, valine, norleucine, isoleucine, leucine, cystein, cysteine^{Acn}, penicillamine, methionine, serine, threonine, asparagines, glutamine, phenylalanine, histidine, tryptophan, tyrosine, proline, Amino butyric acid, carboxylic amino-1-cyclohexane acid, Amino isobutyric acid, carboxylic 2-aminotetraline, 4-bromophenylalanine, tert-Leucine, 4-chlorophenylalanine, β -cyclohexylalanine, 3,4-dichlorophenylalanine, 4-fluorophenylalanine, homoleucine, β -homoleucine, homophenylalanine, 4-methylphenylalanine, 1-naphthylalanine, 2-naphthylalanine, 4-nitrophenylalanine, 3-nitrotyrosine, norvaline, phenylglycine, 3-pyridylalanine, and β -(2-Thienyl)-alanine; and

Uaa is serine or theonine;

- and wherein said linear peptide is devoid of disulphide bonds, said disulphide bonds being removed, replaced by another amino acid or wherein one or more cysteines in said peptide or analog thereof is blocked at the SH group level, and wherein
- Z represents an active substance selected from the group consisting of peptides, polypeptides, antibodies, nucleic acids, oligonucleotides and chemical molecules for the treatment or prevention of human or animal pathologies;
- Y represents a signal agent selected from the group consisting of oligopeptides, proteins, antibodies and chemical ligands, said signal agent having an affinity towards a particular cell type, cell compartment or a specific tissue or organ, or the ability to recognize a specific determinant present on a particular cell type, cell compartment or a specific tissue or organ;
- n is 0 or 1; and
- m is 1 to 10.

Claims 26 – 28 (previously cancelled)

Claim 29: (currently amended): A compound of formula (IV) ~~comprising~~ wherein A is a peptide according to claim 18.

Claim 30: (original): The compound according to claim 25, wherein at least one of the active substances (Z) is attached by a covalent bond to either the N-terminal or C-terminal ends or at the primary amino groups carried by the side chains of the lysines of linear peptide (A).

Claim 31: (cancelled)

Claim 32: (previously presented): A compound according to claim 25, wherein at least one signal agent (Y) is attached via a covalent bond to the N-terminal end of linear peptide (A).

Claim 33: (previously presented): A pharmaceutical composition comprising as active ingredient at least one compound of formula (IV) according to claim 25.

Claim 34: (previously presented): A diagnostic agent comprising at least one compound of formula (IV) according to claim 25.

Claim 34 35: (currently amended): The isolated linear peptide of claim 19, wherein said β -stranded antibiotic peptide is selected from the group consisting of ~~defensins, protegrins, tachyplesins, and polyphemusins~~ a peptide analog to protegrins.

Claim 35 36: (currently amended): The isolated linear peptide of claim 25 19, wherein said β -stranded antibiotic peptide is selected from the group consisting of ~~defensins, protegrins, and tachyplesins, and polyphemusins~~.